



OCEAN DATA SYSTEMS, INC.

6000 EXECUTIVE BLVD. ROCKVILLE MARYLAND 20852

SPACE LAW INFORMATION SYSTEM
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Contract No. NASW-2266, PHASE II

Final Technical Report
January 31, 1973

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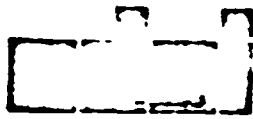
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OCEAN DATA SYSTEMS, INC.

6000 EXECUTIVE BLVD. ROCKVILLE, MARYLAND 20852 • 301/881-3031

January 31, 1973

Mr. Spencer M. Beresford
General Counsel
NASA Headquarters
400 Maryland Avenue, S. W.
Washington, D. C. 20546

Dear Mr. Beresford:

ODSI is pleased to submit the attached Phase II Report "Space Law Information System Design" in satisfaction of contractual obligations. It was indeed a pleasure working with Mr. Leonard Rawicz and other members of the OGC staff, and we sincerely thank them for their cooperation in all aspects of the project.

The Space Law Advisory Panel including all NASA General Counsels, past and present, and Mrs. Eilene Galloway was extremely helpful in directing the initial phase of this effort. At your astute direction, recognizing the time pressures on Panel members and the difficulty of assembling the entire group at the same time, consultation with individual Panel members proved to be the more desirable beneficial approach to the final phase of the contract.

ODSI believes that the need for a space law information system has increased since the start of the contract as a result of emerging requirements in such controversial areas as earth resource survey satellites and direct broadcast satellites. The system proposed offers OGC/NASA a cost-effective option of continuing development of the system. ODSI has the requisite expertise and knowledge for implementing the system and we await your decision in this regard.

Sincerely,

OCEAN DATA SYSTEMS, INC.

Jerome Morenoff
President

JM:rm

Attachment

Submitted To:

**HEADQUARTERS, OFFICE OF THE GENERAL COUNSEL
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
WASHINGTON, D. C. 20546**

**Prepared Under
Contract No. NASW-2266.**

SPACE LAW INFORMATION SYSTEM DESIGN

**PHASE II
Final Technical Report**

January 31, 1973

**Prepared By
Dr. Jerome Morenoff
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ROCKVILLE, MARYLAND 20852**

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FOREWORD

This document is the Final Technical Report summarizing the work prepared under Contract No. NASW-2266.

Ocean Data Systems, Inc. is indebted to Mr. Spencer M. Beresford, General Counsel, for his astute direction and guidance, and to Mr. Leonard Rawicz, Assistant General Counsel for Patent Matters, and to other members of the OGC staff for their cooperation in all aspects of the project. Additionally, the assistance of the Space Law Advisory Panel, including all past NASA General Counsels and Mrs. Eilene Galloway during all phases of this effort, is acknowledged.

ABSTRACT

Design alternatives were defined for the implementation of a Space Law Information System for the Office of the General Counsel, NASA. A thesaurus of space law terms was developed and a selected document sample indexed on the basis of that thesaurus. Abstracts were also prepared for the sample document set.

TABLE OF CONTENTS

<u>Section</u>		<u>Page</u>
	FOREWORD.....	ii
	ABSTRACT.....	iii
	TABLE OF CONTENTS.....	IV
	LIST OF FIGURES.....	V
I	INTRODUCTION.....	I-1
II	SPACE LAW INFORMATION SYSTEM.....	II-1
III	ABSTRACTING, INDEXING AND SAMPLE RETRIEVAL.....	III-1
IV	CONCLUSIONS AND RECOMMENDATIONS.....	IV-1
	APPENDIX A: SPACE LAW THESAURUS	

LIST OF FIGURES

Figure

Page

II-1

CATEGORIES RELATING TO THE LEGAL
STATUS OF MAN'S ACTIVITIES IN
OUTER SPACE

II-3

I. INTRODUCTION

The publication of literature relating to space law has expanded at a significant rate during the past decade. The established role of the United States in space necessitates the availability of a concise guide to this mass of literature in a rapid and accurate manner. Recognizing the need for an information system to insure the accessibility to such information to all who require it, the Office of the General Counsel (OGC)/NASA has assumed the lead in serving as the focal point for developing, implementing, and maintaining a space law library and information system responsive to the needs of interested user agencies, organizations and individuals. Toward this end, a two-phase study contract was entered into with Ocean Data Systems, Inc.

During the first phase of the contractual effort, specific requirements for a NASA Space Law Information System were identified and acquisition requirements for a space law collection for the NASA law library, defined. The results of this effort were submitted in the Phase I Final Report to the OGC/NASA, dated April 15, 1972. The report summarized the survey plan followed in the establishment of the Space Law Information System requirements and the salient points developed during each of the interviews conducted, and the results of the trade-off analysis conducted to determine the most cost effective space law information system compatible with the NASA/RECON system.

The second phase of the contractual effort was devoted to the design of the Space Law Information System specified during the Phase I effort. The results of the first three tasks of Phase II, including a draft of the thesaurus, identifying terminology and major areas of categorization, and a list of over 650 documents representing a cross-section of existing space law material to serve as the sample document set, were contained in the report submitted to the OGC/NASA, dated September 26, 1972.

The purpose of this report is to summarize Ocean Data Systems, Inc.'s efforts in completing Phase II of the study contract. Section II of this report describes the Space Law Information System within the context of changes which must be superimposed upon the basic framework afforded by NASA/RECON. Section III discusses the abstracting and indexing of the sample document set and presents illustrative examples of how documents may be retrieved using the system. Section IV summarizes the principal conclusions and recommendations of the project effort.

II. SPACE LAW INFORMATION SYSTEM

The basic considerations involved in determining the design criteria leading to a cost-effective Space Law Information System were presented in the Phase I Final Report. It was concluded that NASA/RECON is completely satisfactory as a basis upon which such a system can most efficiently be constructed to meet the anticipated needs of the user community. Within the framework of NASA/RECON, however, specific modifications and additional capabilities are required for the projected Space Law Information System to be truly effective.

Abstracts prepared by legally trained personnel must be produced for all major space law works from 1960 through the present time period. These abstracts should be made available for sale to the user community either as looseleaf or bound volumes and a capability developed to provide yearly supplements or insert pages to maintain the currency of the system. In addition to the publication of abstracts to major space law documents, a complete bibliography of all space law material should be prepared and made available and procedures established for its yearly updating. Publication of quarterly SCAN-type reports indicating recent acquisitions to the space law collection is also a necessary part of the overall information system. Finally, easy access to and the ready availability of the actual documents comprising the space law library collection is essential to the success of the Space Law Information System.

Two major elements of the proposed Space Law Information System not currently a part of NASA/RECON are the categorizations relating to the legal status of man's activities in space and the space law thesaurus predicated on these categorizations.

The categorizations are illustrated in Figure II-1. The categories shown, including both major categories and subcategories, enable a researcher, working through the facilities of the NASA/RECON system, to refine his requests to a manageable level of specificity. Under the heading of major categories, 10 areas are identified. It will be demonstrated that an overlapping of categories exists and in fact facilitates cross-referencing, thus reducing the probability of not retrieving a relevant item from the system. Consider each of the major categories:

- International Cooperation

Includes all activities in space involving international cooperation, such as U. N. actions, international laws, international conferences, etc. It is oriented towards space law regimes proposed, developed and under consideration.

- Space Exploration

Involves legal aspects of space exploration whether nationally or internationally oriented. It is broader than both the "International Cooperation" and "Celestial Bodies" categories and is a catch-all for those areas outside the scope of both.

- Celestial Bodies

Attention is focused on the legal aspects of space activities relating to celestial bodies.

FIGURE II-1
CATEGORIES RELATING TO THE LEGAL STATUS
OF MAN'S ACTIVITIES IN OUTER SPACE

(0500)	SPACE LAW
(0501)	INTERNATIONAL COOPERATION
(0502)	SPACE EXPLORATION
(0503)	CELESTIAL BODIES
(0504)	COMMUNICATIONS
(0505)	NATURAL RESOURCES
(0506)	NATIONAL SECURITY
(0507)	SCIENCE AND TECHNOLOGY
(0508)	LEGAL LIABILITY
(0509)	PUBLICATIONS
(0510)	MISCELLANEOUS

* * * * *

SUBCATEGORIES

(0001)	Laws*
(0002)	Congressional Activities**
(0003)	International Organizations***
(0004)	Status of Manned/Unmanned Activities
(0005)	Defense Considerations
(0006)	Environmental Considerations
(0007)	Research and Development
(0008)	Radio Astronomy
(0009)	Biomedical Considerations
(0010)	United States (Publications)
(0011)	Foreign (Publications)
(0012)	International (Publications)
(0013)	Legal Terminology (Miscellaneous)
(0014)	Meteorological Satellites (Miscellaneous)
(0015)	Navigation Satellites (Miscellaneous)
(0016)	Sovereignty Considerations (Miscellaneous)
(0017)	Medical Jurisprudence (Miscellaneous)
(0018)	Patent/Copyright Considerations (Miscellaneous)
(0019)	Conferences (IISL)
(0020)	Other (Miscellaneous)

*International Laws, Treaties, Agreements, etc.
Draft Laws, Resolutions, Conventions, etc.
Foreign Laws, Domestic Laws, Regulations, etc.
United Nations Activities

**Bills, Hearings, Reports, Congressional Record Debate,
Documents

***ITU, INTELSAT, etc.

- Communications

Deals with legal aspects of space communications, including both national and international aspects.

- Natural Resources

Included in this area of growing importance is not only information concerning resources relating to space exploration, but also earth resources, the entire ERTS program and its legal ramifications.

- National Security

Legal aspects of reconnaissance and surveillance activities in space are considered along with space programs affecting national security.

- Science and Technology

Legal ramifications of the science and technology of space exploration are included.

- Legal Liability

Includes consideration of the legal liability associated with space activities, whether of an operational or research nature.

- Publications

Enables a researcher to seek specific types of documents such as conferences on Space Law, specialized U.N. Reports, etc.

- Miscellaneous

This final area provides the system with the modularity

and evolutionary aspects which will enable it to expand. Thus, if any area such as "Sovereignty" considerations is deemed sufficiently important to extract it from "Miscellaneous", it can easily be accomplished by creating a new major category.

Having established the 10 basic major categories, an additional 20 minor categories were specified to assist the potential researcher in narrowing the scope of his questions to a manageable level. The first 9 subcategories are interchangeable with the 10 major categories. The remaining 11 are unique only to the major categories as indicated in Figure II-1.

Note that each major category has its own unique class identification number ranging from 0500 through 0510. These class codes were chosen so as to be compatible with the major concepts established in connection with the Concept Index Code defined for legal memoranda in the Office of the General Counsel under Contract No. NASW-2223. Subcategory classification numbers range from 0001 through 0020.

The space law thesaurus predicated on the above categorizations is modular in nature and can easily be expanded as new areas of space law emerge. A copy of the thesaurus is submitted herein as Appendix A.

III. ABSTRACTING, INDEXING AND SAMPLE RETRIEVAL

Approximately 650 documents representative of the type of material which could be expected to be included in a space law library collection were selected as a sample set. These documents were abstracted, indexed, and submitted under separate cover from this report to The Office of the General Counsel in a format suitable for translation into machine readable form and subsequent entry into NASA/RECON.

One of the most significant findings of this phase of the contractual effort evolved from the abstracting process. There is a direct relationship between the degree of confidence which can be attributed to the abstract and the skill level of the abstractor. Consider abstractors with: (1) no legal training; (2) limited legal training; and (3) highly specialized legal training.

In the first case (i.e., no legal training), the quality of the abstracts produced varied from poor to excellent depending upon the complexity of the article and the intelligence of the abstractor. In the second case (i.e., limited legal training), the quality of the abstracts, although at a more consistently higher level than the first case, still could not be considered acceptable unless adequate controls accompanies performance. Finally, in the third case (i.e., specialized legal training), the principal investigator of the project, Dr. Jerome Morenoff, rewrote virtually all the abstracts undertaken by abstractors

in categories 1 and 2, to assure NASA that the quality and content of the resulting effort was at a level suitable for entry into NASA/RECON.

With respect to coding the abstracts into a form suitable for entry into NASA/RECON, it became evident that a category 2 person could accomplish the task under guidance of a specialized legal expert.

In the course of abstracting and indexing the sample document set, the space law categorizations and thesaurus discussed in the preceding section of this report were iteratively arrived at. It should be emphasized that the Phase I Final Report asserted that if a separate space law publication were desired at this time, it would be a relatively simple task to combine the space law legal information data base and thesaurus with the scientific and technical information data base and thesaurus in NASA/RECON. To be completely compatible with the scientific and technical system, however, the legally-oriented thesaurus would also have to contain technical keywords to provide for the interface between scientific and legal concepts. This could require additional effort and recognizing the small community of interests which are trying to be satisfied may not be warranted. Recognizing the uncertainty of approach at this stage of development, the OGC suspended keywording of documents under Phase II.

Data entry procedures outlined in the Phase I Final Report were refined and adhered to in preparing the document set for entry into NASA/RECON. All file items were assigned (0500) as

the basic identifying number for all Space Law items. Each document abstracted then received a major document classification number selected from the 10 major categories listed in Figure II-1. As indicated previously, these categories each have their own unique identification number ranging from (0501) - (0510). The next step was to search the thesaurus entry associated with the respective identifying number and extract the other major category numbers which best described the contents of the document. For each additional major category listed, an associated subcategory classification ranging from (0001) - (0020) was identified and coded.

This technique of developing a hierarchical structure is consistent with the NASA/RECON system approach, and has proven highly successful in aiding a researcher narrow-in on a specific query to the system.

The procedure by which documents can be retrieved from the Space Law Information System is illustrated herein by three specific examples. The process described in each case can readily be performed on NASA/RECON.

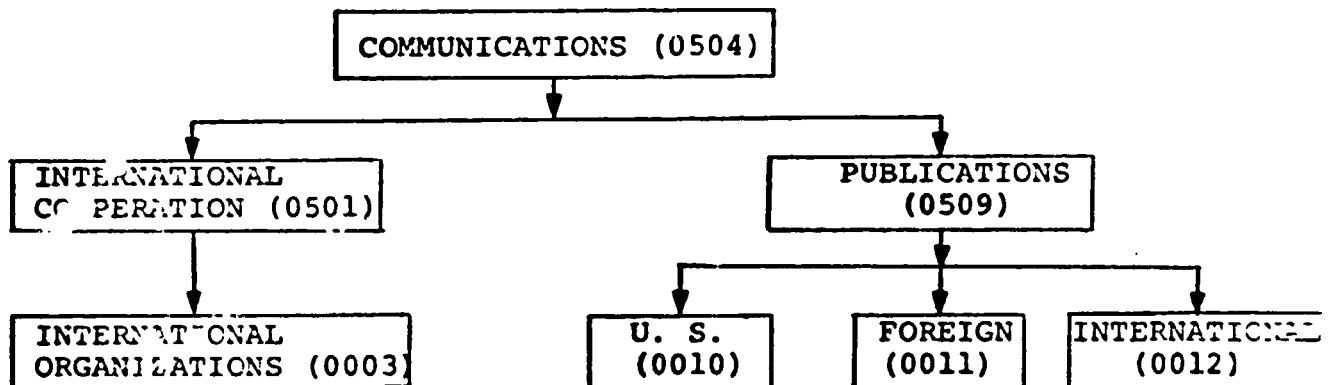
Example 1:

Query: Provide a list of references relating to INTELSAT's role in space communications.

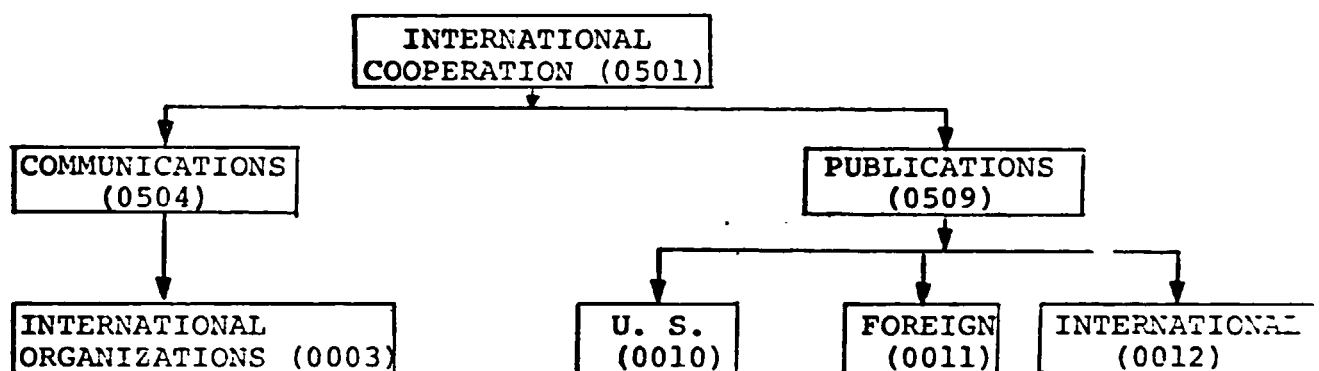
Procedures:

- (1) Scan Major Category List in Figure II-1.
- (2) Select one or more relevant categories for further searching. In this case, Communications (0504) is an obvious area, and if one had any understanding of INTELSAT, International Cooperation (0501) would be another area selected. Also Publications (0509) should be considered.
- (3) Take (0504) i.e., see page 8 of Appendix A, and select relevant collateral major topics: i.e., International Cooperation and Publications. Under International Cooperation, one should logically select "International Organizations." Under Publications, all 3 indicated areas are candidates for further inquiry.

In summary, the sequence of events associated with (0504) is as follows:

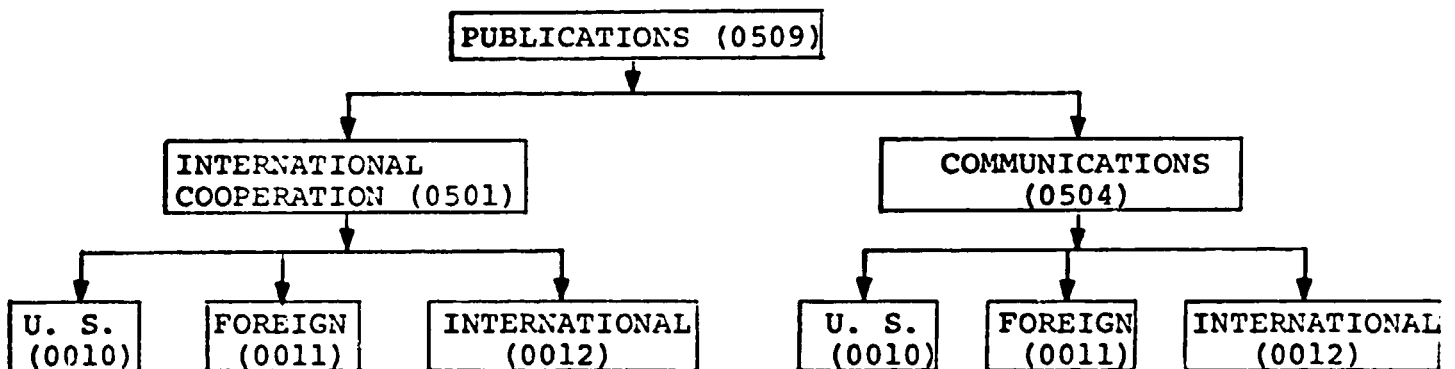


- (4) Take (0501) i.e., see page 1 of Appendix A, and select relevant collateral major topics: i.e., Communications and Publications. Once again, the query process is pictorially summarized below:



- (5) Take (0509), i.e., see page 19 of Appendix A, and select relevant collateral major topics: i.e., International Cooperation and Communications.

Thus:



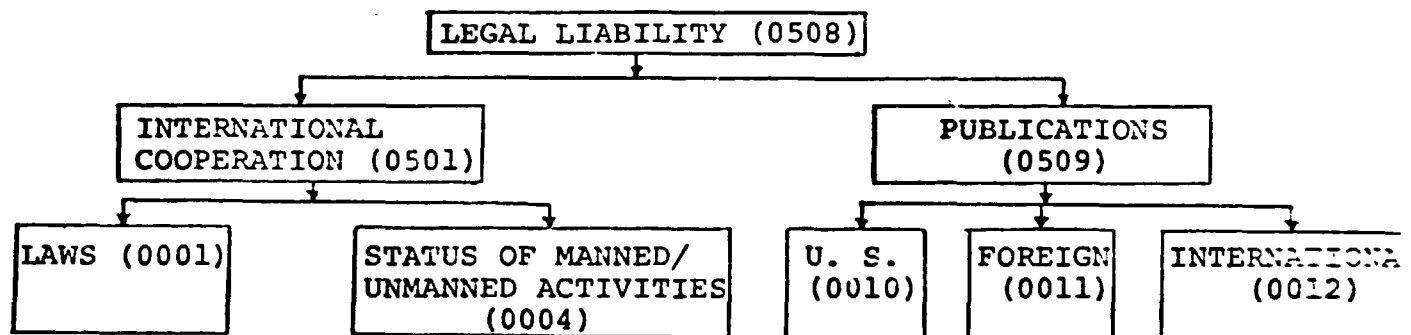
- (6) Utilizing the process outlined above, each of the 3 major categories, i.e., (0504), (0501), and (0509) may be searched in accordance with established RECON procedures, to provide the list of references requested.

Example 2:

Query: Provide a list of references relating to the legal liability of a launching state for accidental damage to the property of another state.

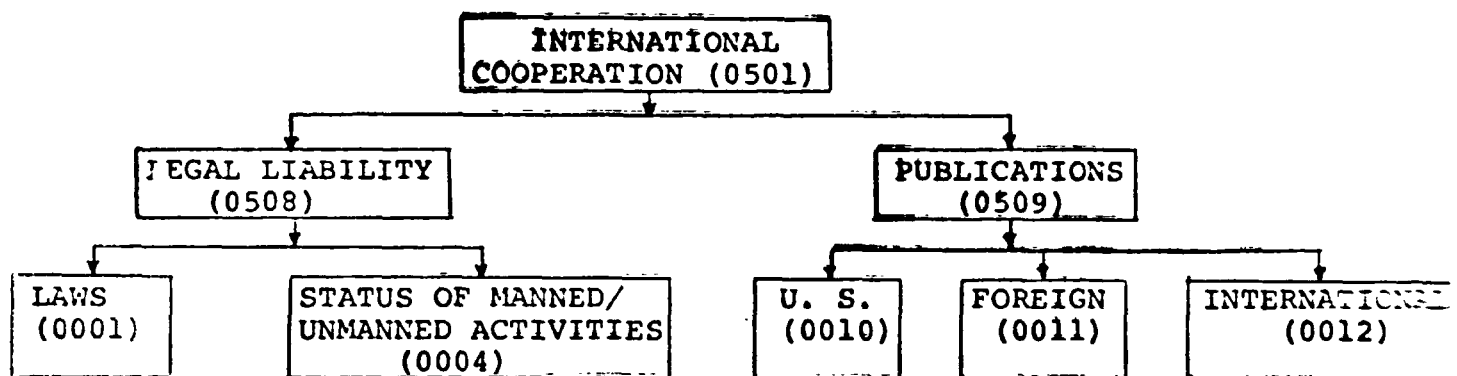
Procedures:

- (1) Scan Major Category List in Figure II-1.
- (2) Select the following relevant categories: Legal Liability (0508), International Cooperation (0501), and Publications (0509).
- (3) For (0508), the sequence of events is as follows:

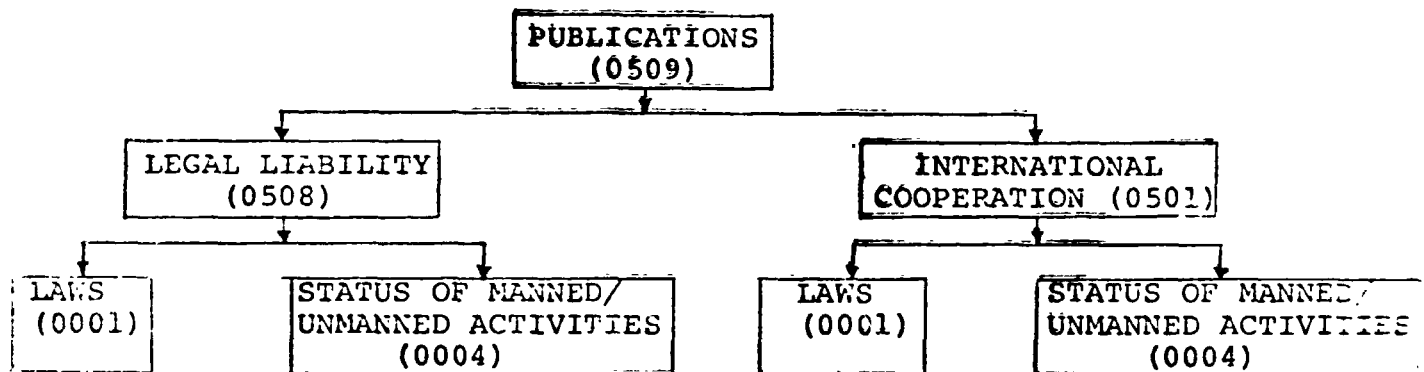


- (4) For (0501), the sequence of events is as follows:

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR.



(5) For (0509), the sequence is as follows:



(6) Utilizing the process outlined above, each of the 3 major categories, i.e., (0508), (0501) and (0509) may be searched in accordance with established RECON procedures, to provide the list of references requested.

Example 3:

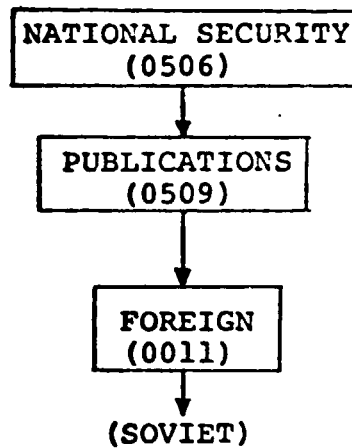
Query: Provide a list of references to Soviet publications on the subject of reconnaissance/surveillance satellites.

Procedures:

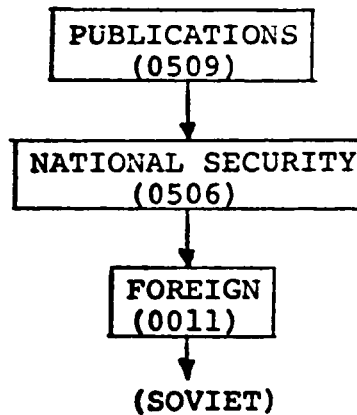
- (1) Scan Major Category List in Figure II-1.
- (2) Select the following relevant categories: National

Security (0506) and Publications (0509).

(3) For (0506), the sequence of events is as follows:



(4) For (0509), the sequence of events is as follows:



(5) Utilizing the process outlined above, each of the 2 major categories, i.e., (0506) and (0509) may be searched in accordance with established RECON procedures to provide the list of references requested.

IV. CONCLUSIONS AND RECOMMENDATIONS

On the basis of the work performed under the subject contractual effort, it is concluded that a Space Law Information System is of high potential value to NASA and the many agencies, organizations, and individuals which would comprise the space law user community. The basic framework has been established for the modular implementation of a cost-effective NASA Space Law Information System by building upon and adding to the resources available through the now existent NASA/RECON.

Prior to any such implementation, however, NASA must first resolve the policy issue of whether or not the proposed Space Law Information System should represent a separate file and publication of RECON. This resolution should then lead to the appropriate modifications (if any) to the existing thesaurus and the development of a keyword dictionary in satisfaction of the requirements of the desired option.

Subsequent to this determination, ODSI recommends the following steps be taken: (1) selection of specified files of documents for entry into the system (e.g., U.N. Documents, international laws, space law articles from years 1960, 1961, 1962, etc.); (2) the abstracting and indexing of documents selected; (3) the entry of the abstracts and indexes produced into NASA/RECON; and (4) the inclusion of the hard copies of selected files as part of the NASA law library.

Implementation plans for the system will be significantly

dependent upon available NASA resources. The evolutionary approach of selecting specified files for entry into the Space Law Information System recommended by ODSI allows the project to continue at whatever level is feasible at the time for NASA.

Several alternatives are available to the Office of the General Counsel in continuing this effort. These range from establishing a Space Law Information System which is fully staffed and operated by personnel within the Office of the General Counsel, to one which is staffed and operated within the structure of the existing NASA technical information services facility management contract. A third alternative, which fully utilizes the capabilities and expertise available to NASA, involves the operation and manning of the Space Law Information System by ODSI within the framework of the existing NASA technical information services facility management contract. This alternative maximizes the utilization of the unique space law expertise to be found only at ODSI.

The need for a space law information system has continued to increase during the contractual effort due to the emerging requirements in such controversial areas as earth resource survey satellites, communications satellite systems, reconnaissance satellites, etc. RECON offers OGC/NASA the cost-effective option of continuing development of the system. The expertise and mechanism for continuity is available and awaits decisions by NASA on its future utilization.

APPENDIX A

THESAURUS

CATEGORIES RELATING TO THE LEGAL STATUS
OF MAN'S ACTIVITIES IN OUTER SPACE

(0500) SPACE LAW
(0501) INTERNATIONAL COOPERATION
(0502) SPACE EXPLORATION
(0503) CELESTIAL BODIES
(0504) COMMUNICATIONS
(0505) NATURAL RESOURCES
(0506) NATIONAL SECURITY
(0507) SCIENCE AND TECHNOLOGY
(0508) LEGAL LIABILITY
(0509) PUBLICATIONS
(0510) MISCELLANEOUS

* * * * *

SUBCATEGORIES

(0001) Laws*
(0002) Congressional Activities**
(0003) International Organizations***
(0004) Status of Manned/Unmanned Activities
(0005) Defense Considerations
(0006) Environmental Considerations
(0007) Research and Development
(0008) Radio Astronomy
(0009) Biomedical Considerations
(0010) United States (Publications)
(0011) Foreign (Publications)
(0012) International (Publications)
(0013) Legal Terminology (Miscellaneous)
(0014) Meteorological Satellites (Miscellaneous)
(0015) Navigation Satellites (Miscellaneous)
(0016) Sovereignty Considerations (Miscellaneous)
(0017) Medical Jurisprudence (Miscellaneous)
(0018) Patent/Copyright Considerations (Miscellaneous)
(0019) Conferences (IISL)
(0020) Other (Miscellaneous)

*International Laws, Treaties, Agreements, etc.
Draft Laws, Resolutions, Conventions, etc.
Foreign Laws, Domestic Laws, Regulations, etc.
United Nations Activities

! **Bills, Hearings, Reports, Congressional Record Debate,
Documents

***ITU, INTELSAT, etc.

(0501) INTERNATIONAL COOPERATION

• SPACE EXPLORATION

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Defense Considerations
- Environmental Considerations

• CELESTIAL BODIES

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Defense Considerations
- Environmental Considerations

• COMMUNICATIONS

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Defense Considerations

• NATURAL RESOURCES

- Laws
- Congressional Activities
- International Organizations

- Status of Manned/Unmanned Activities
- Defense Considerations
- Environmental Considerations
- NATIONAL SECURITY
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Defense Considerations
- SCIENCE AND TECHNOLOGY
 - Laws
 - Congressional Activities
 - International Organizations
 - Defense Considerations
 - Environmental Considerations
 - Research and Development
- LEGAL LIABILITY
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
- PUBLICATIONS
 - U.S.
 - Foreign
 - International

● MISCELLANEOUS

- Legal Terminology
- Meteorological Satellites
- Navigation Satellites
- Sovereignty Considerations
- Medical Jurisprudence
- Patent/Copyright Considerations
- Other

(0502) SPACE EXPLORATION

● INTERNATIONAL COOPERATION

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Defense Considerations
- Environmental Considerations

● CELESTIAL BODIES

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities

- Defense Considerations
- Environmental Considerations
- COMMUNICATIONS
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Defense Considerations
- NATURAL RESOURCES
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Defense Considerations
 - Environmental Considerations
- NATIONAL SECURITY
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Defense Considerations
- SCIENCE AND TECHNOLOGY
 - Laws
 - Congressional Activities
 - International Organizations
 - Defense Considerations
 - Environmental Considerations

- **LEGAL LIABILITY**

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations

- **PUBLICATIONS**

- U.S.
- Foreign
- International

- **MISCELLANEOUS**

- Legal Terminology
- Meteorological Satellites
- Navigation Satellites
- Sovereignty Considerations
- Medical Jurisprudence
- Patent/Copyright Considerations
- Other

(0503) CELESTIAL BODIES

- **INTERNATIONAL COOPERATION**

- Laws
- Congressional Activities
- International Organizations

- Status of Manned/Unmanned Activities
- Defense Considerations
- Environmental Considerations
- SPACE EXPLORATION
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Defense Considerations
 - Environmental Considerations
- COMMUNICATIONS
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Defense Considerations
- NATURAL RESOURCES
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 - Defense Considerations
 - Environmental Considerations
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 - Laws
 - Congressional Activities
 - International Organizations

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 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - PUBLICATIONS
 - U.S.
 - Foreign
 - International
-
- MISCELLANEOUS
 - oo Legal Terminology
 - oo Meteorological Satellites

- Navigation Satellites
- Sovereignty Considerations
- Medical Jurisprudence
- Patent/Copyright Considerations
- Other

(0504) COMMUNICATIONS

- INTERNATIONAL COOPERATION
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Defense Considerations
- SPACE EXPLORATION
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Defense Considerations
- CELESTIAL BODIES
 - Laws.
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Defense Considerations
- NATURAL RESOURCES
 - Laws
 - Congressional Activities

- International Organizations
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 - U.S.
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 - International

- MISCELLANEOUS

- Legal Terminology
- Meteorological Satellites
- Navigation Satellites
- Sovereignty Considerations
- Medical Jurisprudence
- Patent/Copyright Considerations
- Other

(0505) NATURAL RESOURCES

- INTERNATIONAL COOPERATION

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Defense Considerations
- Environmental Considerations

- SPACE EXPLORATION

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
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- Environmental Considerations

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- COMMUNICATIONS

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Defense Considerations

- NATIONAL SECURITY

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Defense Considerations

- SCIENCE AND TECHNOLOGY

- Laws
- Congressional Activities
- International Organizations
- Environmental Considerations
- Defense Considerations
- Research and Development

- LEGAL LIABILITY
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
- PUBLICATIONS
 - U.S.
 - Foreign
 - International
- MISCELLANEOUS
 - Legal Terminology
 - Meteorological Satellites
 - Navigation Satellites
 - Sovereignty Considerations
 - Medical Jurisprudence
 - Patent/Copyright Considerations
 - Other

(0506) NATIONAL SECURITY

- INTERNATIONAL COOPERATION
 - Laws
 - Congressional Activities
 - International Organizations

- Status of Manned/Unmanned Activities
- Defense Considerations
- SPACE EXPLORATION
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Defense Considerations
- CELESTIAL BODIES
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Defense Considerations
- COMMUNICATIONS
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Defense Considerations
- NATURAL RESOURCES
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Defense Considerations

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR.

- SCIENCE AND TECHNOLOGY
 - Laws
 - Congressional Activities
 - International Organizations
 - Defense Considerations
 - Research and Development
- LEGAL LIABILITY
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
- PUBLICATIONS
 - U. S.
 - Foreign
 - International
- MISCELLANEOUS
 - Legal Terminology
 - Meteorological Satellites
 - Navigation Satellites
 - Sovereignty Considerations
 - Medical Jurisprudence
 - Patent/Copyright Considerations
 - Other

(0507) SCIENCE AND TECHNOLOGY

● INTERNATIONAL COOPERATION

- Laws
- Congressional Activities
- International Organizations
- Defense Considerations
- Environmental Considerations
- Research and Development

● SPACE EXPLORATION

- Laws
- Congressional Activities
- International Organizations
- Defense Considerations
- Environmental Considerations
- Research and Development
- Radio Astronomy
- Biomedical Considerations

● CELESTIAL BODIES

- Laws
- Congressional Activities
- International Organizations
- Defense Considerations
- Environmental Considerations
- Research and Development
- Radio Astronomy
- Biomedical Considerations

- **COMMUNICATIONS**

- **Laws**
- **Congressional Activities**
- **International Organizations**
- **Defense Considerations**
- **Research and Development**
- **Radio Astronomy**
- **Biomedical Activities**

- **NATURAL RESOURCES**

- **Laws**
- **Congressional Activities**
- **International Organizations**
- **Environmental Considerations**
- **Defense Considerations**
- **Research and Development**

- **NATIONAL SECURITY**

- **Laws**
- **Congressional Activities**
- **International Organizations**
- **Defense Considerations**
- **Research and Development**

- **LEGAL LIABILITY**

- **Laws**
- **Congressional Activities**
- **International Organizations**
- **Status of Manned/Unmanned Activities**

- PUBLICATIONS

- U. S.
- Foreign
- International

- MISCELLANEOUS

- Legal Terminology
- Meteorological Satellites
- Navigation Satellites
- Sovereignty Considerations
- Medical Jurisprudence
- Patent/Copyright Considerations
- Other

(0508) LEGAL LIABILITY

- INTERNATIONAL COOPERATION

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations

- SPACE EXPLORATION

- Laws
- Congressional Activities

- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- CELESTIAL BODIES
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
- COMMUNICATIONS
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
- NATURAL RESOURCES
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
- NATIONAL SECURITY
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
- SCIENCE AND TECHNOLOGY
 - Laws

- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities

- PUBLICATIONS

- U.S.
- Foreign
- International

- MISCELLANEOUS

- Legal Terminology
- Meteorological Satellites
- Navigation Satellites
- Sovereignty Considerations
- Medical Jurisprudence
- Patent/Copyright Considerations
- Other

(0509) PUBLICATIONS

- INTERNATIONAL COOPERATION

- U.S.
- Foreign
- International

- SPACE EXPLORATION

- U.S.
- Foreign
- International

- CELESTIAL BODIES
 - U.S.
 - Foreign
 - International
- COMMUNICATIONS
 - U.S.
 - Foreign
 - International
- NATURAL RESOURCES
 - U.S.
 - Foreign
 - International
- NATIONAL SECURITY
 - U.S.
 - Foreign
 - International
- SCIENCE AND TECHNOLOGY
 - U.S.
 - Foreign
 - International
- LEGAL LIABILITY
 - U.S.
 - Foreign
 - International

- MISCELLANEOUS

- U.S.

- Foreign

- International

(0510) MISCELLANEOUS

- INTERNATIONAL COOPERATION

- Legal Terminology

- Laws

- Congressional Activities

- International Organizations

- Status of Manned/Unmanned Activities

- Environmental Considerations

- Defense Considerations

●● Meteorological Satellites

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations

●● Navigation Satellite

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations

●● Sovereignty Considerations

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations

●● Medical Jurisprudence

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities

- Environmental Considerations
- Defense Considerations
- Patent/Copyright Considerations
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations
- Other
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations
- SPACE EXPLORATION
 - Legal Terminology
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations
 - Meteorological Satellites
 - Laws
 - Congressional Activities

- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations
- Navigation Satellite
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations
- Sovereignty Considerations
 - Laws
 - Congressional Activities
 - International Organizations.
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations
- Medical Jurisprudence
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations
- Patent/Copyright Considerations
 - Laws

- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations

•• Other

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations

• CELESTIAL BODIES

•• Legal Terminology

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations

•• Meteorological Satellites

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations

●● Navigation Satellite

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations

●● Sovereignty Considerations

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations

●● Medical Jurisprudence

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations

●● Patent/Copyright Considerations

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations

●● Other

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations

● COMMUNICATIONS

●● Legal Terminology

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations

●● Meteorological Satellites

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations

●● Navigation Satellite

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities

- Environmental Considerations
- Defense Considerations
- Sovereignty Considerations
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations
- Medical Jurisprudence
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations
- Patent/Copyright Considerations
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations
- Other
 - Laws
 - Congressional Activities
 - International Organizations

- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations

- NATURAL RESOURCES

- Legal Terminology

- Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations

- Meteorological Satellites

- Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations

- Navigation Satellite

- Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations

- Sovereignty Considerations

- Laws

- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations
- Medical Jurisprudence
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations
- Patent/Copyright Considerations
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations
- Other
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations

● NATIONAL SECURITY

●● Legal Terminology

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations

●● Meteorological Satellites

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations

●● Navigation Satellite

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations

●● Sovereignty Considerations

- Laws
- Congressional Activities
- International Organizations

- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations
- Medical Jurisprudence
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations
- Patent/Copyright Considerations
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations
- Other
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations

- SCIENCE AND TECHNOLOGY

- Legal Terminology

- Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations

- Meteorological Satellites

- Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations

- Navigation Satellite

- Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations

- Sovereignty Considerations

- Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities

- Environmental Considerations
- Défense Considerations
- Medical Jurisprudence
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations
- Patent/Copyright Considerations
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations
- Other
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations
- LEGAL LIABILITY
 - Legal Terminology
 - Laws
 - Congressional Activities

- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations
- Meteorological Satellites
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations
- Navigation Satellite
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations
- Sovereignty Considerations
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations
- Medical Jurisprudence
 - Laws

- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations
- Patent/Copyright Considerations
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations
- Other
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations
- PUBLICATIONS
 - Legal Terminology
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations

●● Meteorological Satellites

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations

●● Navigation Satellite

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations

●● Sovereignty Considerations

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities
- Environmental Considerations
- Defense Considerations

●● Medical Jurisprudence

- Laws
- Congressional Activities
- International Organizations
- Status of Manned/Unmanned Activities

- Environmental Considerations
- Defense Considerations
- Patent/Copyright Considerations
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations.
 - Defense Considerations
- Other
 - Laws
 - Congressional Activities
 - International Organizations
 - Status of Manned/Unmanned Activities
 - Environmental Considerations
 - Defense Considerations